

## ABSTRACT

A coupling assembly includes multiple composite substrate layers and a flange layer fusion bonded together in a stacked arrangement. The substrate layers are positioned on top of the flange layer and include embedded signal processing circuitry connected to a signal input and a signal output. A cavity is formed through an area of the substrate layers to expose signal connection terminals. These signal connection terminals are coupled to the embedded signal processing circuitry and they enable the addition of a circuit element to the assembly after the fusion bonding of the flange and substrate layers, and they enable the coupling of that added element to the signal processing circuitry.

5